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REMARKS

The present application was filed with claims 1-45 on 2 October 2003 and claims the benefit of a provisional patent application filed on 26 December 2002. Applicants amend claims 1, 3, 5, 10, 12, 17, 20, 22, and 36, cancel claims 18 and 31, and add new claims 46-57. New claims 46-57 are added herein, as supported by the specification and figures. Amendments to the claims are also supported by the specification and figures. No new material is added.

In the outstanding Office Action, the Examiner (1) objected to the Abstract; (2) rejected claims 1, 2, 5-7, 12-14, 20-23, 26-29, 32, 36, and 39-45 under 35 U.S.C. §102(e) as being anticipated by Lee, U.S. Patent No. 6,985,876; (3) rejected claims 3, 4, 10, 11, 17-19, 24, and 33 under 35 U.S.C. §103(a) as being obvious over Lee in combination with Henson, U.S. Patent No. 6,167,383; (4) rejected claims 8, 9, 15, 16, 34, 37, and 38 under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Motomiya et al., U.S. Patent No. 6,083,267; (5) rejected claims 25 and 35 under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Kodosky, U.S. Publication No. 2004/0032433; and (6) rejected claims 30 and 31 under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Kodosky and in further view of Motomiya.

Objection to Abstract

The Examiner objected to the Abstract. Specifically, the Examiner objected to the length of the Abstract as being over 15 lines and 150 words. Applicants have amended the Abstract to be less than 15 lines and 150 words and respectfully request the objection be withdrawn.

Rejection under §102(e) to Claims

The Examiner rejected claims 1, 2, 5-7, 12-14, 20-23, 26-29, 32, 36, and 39-45 under 35 U.S.C. §102(e) as being anticipated by Lee.

Claims 1 and 2

Amended claim 1 recites the following:

A method to at least specify, document and prototype an instrument having specific user interface elements to meet individual customer/market needs, comprising displaying, with a graphical user interface, an image of a customer-selected instrument type, *the image shown in two dimensions and having a coordinate system; enabling the customer to specify*, with the graphical user interface, individual ones of a plurality of instrument parameters *and horizontal and vertical locations thereof* in the coordinate system in a self-documenting fashion; in response to a selection of at least one type of instrument parameter, updating the displayed image to correspond to the selected instrument parameter at the specified horizontal and vertical location in the coordinate system; and developing at least one prototype instrument for the customer based on the selected parameters and the self-documentation.

Amended claim 1 (emphasis added). Lee does not disclose at least the highlighted material in claim 1. For instance, Lee states the following:

The customizable components, i.e., the displayed images of the customizable components, may be highlighted or clearly identified in some way to indicate to the user that the respective component is customizable. The user may activate the selection process for a customizable component by clicking on the component or area. In another embodiment, when the user drags a cursor of the client system 106 over the component or area, a pop-up window or menu may appear to enable the user to select or configure the customizable component. The pop-up window, in one embodiment, may include text information displayed in close proximity to the image of the associated customizable component which displays or indicates the customizable component options. In another embodiment, a user may use other drag-and-drop techniques to make customizable component selections.

Lee, col. 6, line 60 to col. 7, line 7. There is no disclosure in this or other sections of Lee of displaying “an image of a customer-selected instrument type, *the image shown in two dimensions and having a coordinate system; enabling the customer to specify*, with the graphical user interface, individual ones of a plurality of instrument parameters *and horizontal and vertical locations thereof* in the coordinate system in a self-documenting fashion”.

For at least this reason, amended claim 1 is patentable over Lee. Because amended claim 1 is patentable, dependent claim 2 is patentable.

Claims 5-7, 12-14, 20, and 21

Independent claims 5, 12, and 20 recite some similar subject matter. It is noted that the amendments made to claims 5, 12, and 20 clarify the claims (e.g., as being illustrative of the example at page 7, line 16 to page 9, line 4 and FIGS. 2A-2C). These amendments were not made for purposes of patentability. Claim 5 is chosen as representative. Amended claim 5 recites:

A method to specify a gauge, comprising:

in response to a user accessing a server coupled to the network, displaying an image of a user-selected gauge type comprising a set of configurable gauge functions located at a plurality of locations in the image;

displaying in association with the selected gauge type a set of visual aids corresponding to defined functions;

enabling the user to specify individual ones of the configurable gauge functions using said set of visual aids and a drag and drop technique for selecting individual visual aids from the set of visual aids and associating a selected visual aid with a configurable gauge function, wherein associating also associates the configurable gauge function with a defined function corresponding to the selected visual aid; and

outputting a data file for use in manufacturing at least one sample of the selected gauge type in accordance with the configurable gauge functions corresponding to the selected visual aids and associated defined functions.

Amended claim 5 (emphasis added). For purported disclosure of a “drag and drop technique”, the Examiner cites Lee. Lee states the following:

The customizable components, i.e., the displayed images of the customizable components, may be highlighted or clearly identified in some way to indicate to the user that the respective component is customizable. The user may activate the selection process for a customizable component by

clicking on the component or area. In another embodiment, when the user **drags a cursor** of the client system 106 over the component or area, a pop-up window or menu may appear to enable the user to select or configure the customizable component. The pop-up window, in one embodiment, may include text information displayed in close proximity to the image of the associated customizable component which displays or indicates the customizable component options. In another embodiment, a user may use **other drag-and-drop techniques** to make customizable component selections.

Lee, col. 6, line 60 to col. 7, line 7. First, the extent of the “other” drag and drop techniques in Lee is not defined whatsoever. Second, in claim 5, the drag and drop technique serves **two** purposes: (1) it selects individual visual aids from the set of visual aids; and (2) it associates a selected visual aid with a configurable gauge function. Even if Lee meets (1) (which Applicants do not admit), there is no indication in Lee that a drag and drop technique would serve the purpose of associating a selected visual aid with a configurable gauge function.

It should be kept in mind that a visual aid may have the ability to have multiple functions. For instance, in FIG. 1A, the numeric indicator 12 does not have an assigned function until the user uses the drop down box 14E and selects “hour meter - maintenance - time of day”. As another example, the multi-segmented indicator 21 (see FIG. 2A) can have configurability, as indicated by the exemplary battery and fuel visual aids 21A and 21B. In other words, the multi-segmented indicator 21 could indicate battery level or fuel level, and a user can use the drag and drop technique to assign the function to the multi-segmented indicator 21 (e.g., by placing the battery fuel visual aid 21A on the gauge 20).

There is no indication in Lee that a drag and drop technique would serve the purpose of associating a selected visual aid with a configurable gauge function. For at least this reason and the fact that the extent of the “other” drag and drop techniques in Lee is not defined, amended claim 5 is patentable over Lee. Because amended claim 5 is patentable, amended claims 12 and 20 are also patentable. Because claims 5, 12, and 20 are patentable, their respective dependent claims 6, 7, 13, 14, and 21-23 are also patentable.

Claims 17 and 20

Claims 17 and 20 have been amended as follows. Claim 17 now recites “custom engineering at least one sample of the selected gauge type, in accordance with the selected gauge functions” and “manufacturing the custom engineered at least one sample for delivery to the user.” Claim 21 now recites “based at least on the output data file, custom engineering the at least one sample of the selected gauge type” and “manufacturing the custom engineered at least one sample for delivery to the user.” These amendments are supported, e.g., by FIG. 5 and page 11, lines 20-25.

There is no disclosure of this added subject matter in claims 17 and 20 in any of the cited references.

Claims 22, 23, 26-29, 32, 36, 39-42

Amended independent claim 22 recites the following:

A method to design at least one user interface element of an instrument, comprising:

displaying an image of a selected instrument type, the image shown in at least two dimensions and comprising a blank instrument face;

specifying, through the use of at least a drawing tool of a graphical user interface, at least one characteristic of the at least one user interface element, the at least one characteristic comprising a location, a size and a functionality;

in response to specifying the at least one characteristic, updating the displayed image to correspond to the specified at least one characteristic; and

developing an output data object for use in obtaining at least one prototype sample of the instrument having the specified at least one characteristic of the at least one user interface element.

Amended claim 22. It is noted that the Applicants have added subject matter similar to the subject matter in canceled claim 31 to claim 22. The Examiner rejected claim 31 as being

unpatentable over rejected claims 30 and 31 under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Kodosky and in further view of Motomiya.

The Examiner admits that Lee and Kodosky do not teach displaying a blank instrument face and enabling a user to select placement, size, and functionality of a user interface element. The Examiner then asserts that Motomiya describes displaying a blank instrument face and enabling a user to select placement, size, and functionality of a user interface element.

Applicants respectfully disagree with regard to the §103(a) rejection. First, there is no indication in Lee that the components used to create a customizable product in Lee could have specified a location, a size, and a functionality of a component. There is absolutely no teaching or implication in Lee that a size of a component could be specified. Nor is there any teaching or implication that functionality of the component could be specified. In other words, in Lee, the component already has a predetermined functionality and a user simply selects the component as part of a product. The same arguments are also valid for Kodosky.

Given that the combination of Lee and Kodosky does not disclose or imply enabling a user to select placement, size, and functionality of a user interface element, then one skilled in the art would not look to Motomiya to add the ability for a user to select placement, size, and functionality of a user interface element, as such an ability is unnecessary for the combination of Lee and Kodosky (or these separately).

Moreover, Motomiya is related to designing a necklace, pendant, finger ring, earring, or bracelet. Abstract of Motomiya. Applicants respectfully submit that such a patent is simply inapplicable to patent such as Lee, which is related to enabling a user to configure a customizable product such as a computer.

Furthermore, the Examiner cites the following portion of Motomiya as purportedly disclosing enabling a user to select a functionality of a user interface element:

The customer selects a color from the area 61 in which various colors of the beads are arranged around the beads button 64, selects the beads of the desired shape from the area 62, and drags the beads to the position in the area 63 where the customer wants to add the beads to the equipment on display (step 327).

Motomiya, col. 6, lines 4-7. Applicants respectfully submit that this cited text has little or nothing to do with enabling a user to select functionality of a user interface element of an instrument such as a gauge. Therefore, Motomiya does not disclose “specifying … at least one characteristic of the at least one user interface element, the at least one characteristic comprising … a functionality” as recited in claim 22, and therefore the combination of Motomiya, Lee, and Kodosky does not disclose this subject matter.

For at least these reasons, amended claim 21 is patentable over the (invalid) combination Motomiya, Lee, and Kodosky. Because claim 21 is patentable, its dependent claims 23, 26-29, 32, 36, 39-42 are also patentable.

Claims 43-45

Turning now to claim 43, claim 43 is directed to an instrument and recites in part:

a display *for showing at least one user interface element*;

a memory; and

an instrument controller that is coupled to said memory, to said display and to at least one instrument input, said memory storing data for use by said instrument controller in *mapping between said at least one instrument input and said at least one user interface element*, where

the data comprises data *developed during an interactive design process* where there was displayed an image of a selected instrument type for *enabling a potential customer to specify*, through the use of a graphical user interface, *at least one characteristic of the at least one user interface element*.

Claim 43 (emphasis added). In other words and paraphrasing, the display shows a user interface element. The data in the memory is used for mapping between an interface input and the user interface element. The data was developed during an interactive design process where there was an image displayed and the process enabled the customer to specify a characteristic of the user interface element.

The Examiner cites the CRT/Video monitor 700 of Lee as disclosing “a display **for showing at least one user interface element**”. However, there is no indication in Lee that the CRT/Video monitor 700 displays a user interface element, as such a term is defined in the specification and the claims. For instance, one such example of a user interface element is a gauge (see claim 45).

In fact, Applicants can find no location in the rejection to claim 43 where the Examiner states what in Lee is equivalent to “at least one user interface element” in this claim. For instance, the Examiner cites col. 9, lines 60-64 of Lee as purportedly disclosing “[data] for use by said instrument controller in mapping between said at least one instrument input and said at least one user interface element”. This section of Lee states the following:

The various software options may include the operating system, e.g., Windows 98, Windows 2000, Windows NT, Linux, Mac OS, and applications, such as word processing software, web browser software, games, etc.

Lee, col. 9, lines 60-64. This cited text implies that an operating system is asserted by the Examiner to be “[data] for use by said instrument controller in mapping between said at least one instrument input and said at least one user interface element”, but there is no disclosure in this cited text of “at least one user interface element”. Perhaps the Examiner means that a mouse or keypad would be equivalent to “at least one user interface element”, but if so, the display of a computer is not “a display **for showing at least one user interface element**”, as the mouse or keyboard are typically not shown on the display.

The Examiner also cites FIG. 2B, label 32, and col. 7, lines 36-39 of Lee for purported disclosure of “[data developed during an interactive design process where there

was displayed an image of a selected instrument type for enabling a potential customer to specify...] at least one characteristic of the at least one user interface element". This cited section of Lee states the following:

In step 32, the vendor's e-commerce server 106 sends the data and information to the client system 106 to enable it to generate a display to visually depict the current or final 'as ordered' customized product.

Lee, col. 7, lines 36-39. This cited text does not indicate what in Lee is equivalent to the "at least one user interface element" that is displayed by a display of an instrument.

Applicants respectfully submit that Lee does not disclose, as recited in independent claim 43, an instrument including "*a display for showing at least one user interface element*", "*an instrument controller that is coupled to said memory, to said display and to at least one instrument input, said memory storing data for use by said instrument controller in mapping between said at least one instrument input and said at least one user interface element* [suitable for showing on the display of the instrument]" and where "*the data comprises data developed during an interactive design process* where there was displayed an image of a selected instrument type for *enabling a potential customer to specify*, through the use of a graphical user interface, *at least one characteristic of the at least one user interface element.*"

For at least these reasons, claim 43 is patentable over Lee.

Nonetheless, another distinguishing feature of claim 43 also indicates that claim 43 is patentable over Lee. It is helpful at this point to review Applicants' specification with regard to exemplary embodiments of the disclosed invention. Such exemplary embodiments are shown in FIGS. 2D and 3C. In these figures, the gauge controller 26, using the gauge function mapping file 29, maps between gauge inputs 27A-27n and, e.g., the gauge functions 20A-20F, 23, and 23A. As noted in the specification, full customer programmability may be provided over the placement, sizes and functionality of the various

gauge functions 20A-20F, 23, 23A, and possibly of the bar graph or similar multi-segmented indicator 21 as well.

In independent claim 43 (paraphrasing), the instrument comprises a memory. The memory stores **data** for use by said instrument controller in mapping between an instrument input and a user interface element, which can be displayed on the display of the instrument. The Examiner cites an operating system for purported disclosure of this data, but an operating system does not map between an instrument input and a user interface element displayed on the display of the instrument, where the **data** itself is developed during an interactive design process. In Lee, the operating system is not developed during an interactive design process and does not map between an instrument input and a user interface element displayed on the display of the instrument.

Therefore, independent claim 43 is patentable over Lee. As independent claim 43 is patentable over Lee, its dependent claims 44 and 45 are patentable over Lee.

Rejection under §103(a) to Claims

The Examiner rejected claims 3, 4, 10, 11, 17-19, 24, and 33 under 35 U.S.C. §103(a) as being obvious over Lee in combination with Henson. With respect to independent claim 3, this claim has been amended and recites the following:

A method to specify a gauge, comprising:
in response to a user accessing a server coupled to a data communications network, displaying an image of a user-selected gauge type, the image shown in at least two dimensions and comprising a plurality of visual aids, the plurality of visual aids placed at a plurality of vertical and horizontal locations in the image;
enabling the user to specify individual ones of gauge functions of the visual aids using a plurality of drop down menus; and

in response to a selection of at least one type of gauge function for one of the visual aids, changing the displayed image to correspond to the selected gauge function.

Amended claim 3. It is respectfully submitted that Lee, Henson, or the combination of Lee and Henson does not disclose at least “displaying an image of a user-selected gauge type, the image shown in at least two dimensions and comprising a plurality of visual aids, *the plurality of visual aids placed at a plurality of vertical and horizontal locations in the image*” and “enabling the user to specify individual ones of gauge functions of the visual aids using a plurality of drop down menus”.

Consequently, claim 3 is patentable over the combination of Lee and Henson. Similar arguments can be made for amended claims 10 and 17, and these claims are also patentable over the combination of Lee and Henson. Because claims 3, 10, and 17 are patentable, dependent claims 4, 11, 18, and 19 are also patentable.

With regard to claims 24, and 33, these claims depend from independent claim 22, which was shown above to be patentable. Therefore, dependent claims 24 and 33 are patentable for at least the reasons given above with respect to independent claim 22.

Rejections to Claims 8, 9, 15, 16, 25, 30, 31, 34, 35, 37, and 38

Claims 8 and 9 are dependent from claim 5, which was shown above to be patentable. Claims 15 and 16 depend from claim 12, which was shown above to be patentable. Claims 25, 30, 31, 34, 35, 37, and 38 depend from claim 22, which was shown above to be patentable. Therefore, claims 8, 9, 15, 16, 25, 30, 31, 34, 35, 37, and 38 are patentable for at least the reasons given above.

New Claims

New claims 46-57 are added herein, as supported by the specification and figures. No new material is added. It is believed that each of these claims defines patentable subject matter over the cited references.

Conclusion

Based on the foregoing arguments, it should be apparent that all remaining claims are thus allowable over the reference(s) cited by the Examiner, and the Examiner is respectfully requested to reconsider and remove the rejections. The Examiner is invited to call the undersigned attorney for any issues.

It is noted that Kodosky was filed after the filing date herein and is based on provisional patent applications filed prior to the filing of the provisional patent application upon which the instant application is based. Applicants reserve the right in the future to contest under 35 U.S.C. §112 whether Kodosky is properly supported by the provisional patent applications for Kodosky.

S.N. 10/678,654
Art Unit: 2196

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